

SECTION 09210
GYPSUM PLASTER

PART 1 - GENERAL

0.1 DESCRIPTION OF WORK

- A.** Work Included: This Section specifies the following items:
1. Nonstructural steel framing and furring.
 2. Gypsum plasterwork on expanded metal lath.
- B.** Items To Be Installed Only: Install the following items as furnished by the designated Sections:
1. Section 15400 - PLUMBING SYSTEMS:
 - a. Access doors in plaster assemblies.
 2. Section 15500 - FIRE PROTECTION:
 - a. Access doors in plaster assemblies.
 3. Section 15600 - HEATING, VENTILATING, AND AIR CONDITIONING:
 - a. Access doors in plaster assemblies.
 4. Division 16 - ELECTRIC:
 - a. Access doors in plaster assemblies.
- C.** Related Work: The following items are not included in this Section and will be performed under the designated Sections:
1. Section 07920 - JOINT SEALANTS; sealants installed with gypsum cement plaster.

0.2 SUBMITTALS

- A.** Product Data: For each type of product indicated.
- B.** Shop Drawings: Show locations and installation of control and expansion joints including plans, elevations, sections, details of components, and attachments to other work.

0.3 QUALITY ASSURANCE

- A.** Fire-Test-Response Characteristics: For gypsum plaster assemblies with fire-resistance ratings, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.

- B.** Sound Transmission Characteristics: For gypsum plaster assemblies with STC ratings, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by a qualified independent testing agency.
- C.** Hold Point - Mockups: Before plastering, install mockups of at least 100 square feet in surface area to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

0.4 DELIVERY, STORAGE, AND HANDLING

- A.** Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic, and other causes.

0.5 PROJECT CONDITIONS

- A.** Comply with ASTM C 842 requirements or gypsum plaster manufacturer's written recommendations, whichever are more stringent.
- B.** Room Temperatures: Maintain temperatures at not less than 55 deg F or greater than 80 deg F for at least 7 days before application of gypsum plaster, continuously during application, and for 7 days after plaster has set, or until plaster has dried.
- C.** Avoid conditions that result in gypsum plaster drying out too quickly.
 - 1. Distribute heat evenly; prevent concentrated or uneven heat on plaster.
 - 2. Maintain relative humidity levels for prevailing ambient temperature that produces normal drying conditions.
 - 3. Ventilate building spaces in a manner that prevents drafts of air from contacting surfaces during plaster application and until plaster is dry.

PART 2 - PRODUCTS

0.1 NONSTRUCTURAL STEEL FRAMING MEMBERS, GENERAL

- A.** Components, General: Comply with ASTM C 841. For steel sheet components not included in ASTM C 841, comply with ASTM C 645 requirements for metal, unless otherwise indicated.
- B.** Cold-Rolled Channels: Base metal thickness of 0.0538 inch.

1. Protective Coating: ASTM A 653/A 653M, G60, hot-dip galvanized zinc coating, unless otherwise indicated.
- C. Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, not less than 0.0475-inch diameter, unless otherwise indicated.

0.2 STEEL FRAMING FOR CEILINGS

A. Suspended Furring:

1. Main Runners (Carrying Channels): Cold-rolled channels, in depth indicated.
2. Cross Furring: Cold-rolled channels, 3/4 inch deep.

B. Direct Furring: Cold-rolled channels, 3/4 inch deep.

C. Tie Wire:

1. For tying main runners directly to beams or joists (where wire hangers are used between beams or joists), use double loop of 0.1205-inch-diameter wire.
2. For tying furring directly to concrete structure without main runners, use 0.0800-inch- diameter wire.
3. For tying furring directly to steel or wood structure without main runners, use double loop of 0.0625-inch-diameter wire, or quadruple loop of 0.0475-inch- diameter wire.
4. For saddle tying cross furring to main runners use 0.0625-inch-diameter wire, or double strand of 0.0475-inch-diameter wire.

D. Wire Hangers: 0.162-inch- diameter wire.

E. Rod Hangers: ASTM A 510, mild carbon steel, ASTM A 153/A 153M, hot-dip galvanized.

1. Diameter: 1/4-inch.

F. Flat Hangers: Commercial-steel sheet, 1 by 3/16 inch.

1. Protective Coating: ASTM A 653/A 653M, G60, hot-dip galvanized zinc coating, unless otherwise indicated.

G. Hanger Attachments to Concrete: Power-actuated fasteners that use explosive powder, gas combustion, or compressed air or other gas to embed fasteners in concrete and that are suitable for application indicated. Fabricated from corrosion-resistant materials, with clips or other devices for attaching hangers. Capable of sustaining, without failure, a load equal to 10 times that imposed by construction as determined by testing according to ASTM E 1190 by a qualified independent testing agency.

0.3 STEEL FRAMING FOR PARTITIONS

A. Steel Studs and Runners: ASTM C 645.

1. Protective Coating: ASTM A 653/A 653M, G60, hot-dip galvanized zinc coating, unless otherwise indicated.
2. Minimum Base Metal Thickness: 0.0329 inch.
3. Depth: As indicated.

B. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.

1. Protective Coating: G60, hot-dip galvanized zinc coating, unless otherwise indicated.
2. Minimum Base Metal Thickness: 0.0312 inch.

C. Channel Bridging: Cold-rolled channels, 1-1/2 inches deep.

1. Clip Angle: 1-1/2 by 1-1/2 inch, 0.068-inch-thick, galvanized steel.

D. Vertical Furring:

1. Hat-Shaped, Rigid Furring Channels: ASTM C 645.

- a. Protective Coating: ASTM A 653/A 653M, G60, hot-dip galvanized zinc coating, unless otherwise indicated.
- b. Minimum Base Metal Thickness: 0.0312 inch.
- c. Depth: 1-1/2 inches.

2. Furring Channels: Cold-rolled channels, 3/4 inch deep.

- a. Furring Brackets: Adjustable, corrugated-edge type fabricated from steel sheet with minimum bare steel thickness of 0.0312 inch.

0.4 EXPANDED-METAL LATH

A. Expanded-Metal Lath, General: ASTM C 847.

1. Finish: ASTM A 653/A 653M, G60, hot-dip galvanized zinc coating.
2. Paper Backing: Kraft paper factory bonded to back of lath.

B. Diamond-Mesh Lath: Self-furring.

1. Weight: 3.4 lb/sq. yd.

0.5 ACCESSORIES

- A.** General: Comply with ASTM C 841 and coordinate depth of trim and accessories with thicknesses and number of plaster coats required.
1. Cornerite: Fabricated from expanded-metal lath with ASTM A 653/A 653M, G60, hot-dip galvanized zinc coating.
 2. Striplath: Fabricated from expanded-metal lath with ASTM A 653/A 653M, G60, hot-dip galvanized zinc coating.
 3. Cornerbeads: Fabricated from zinc-coated (galvanized) steel.
 4. Casing Beads: Fabricated from zinc-coated (galvanized) steel; square-edged style; with expanded flanges.
 5. Control Joints: Fabricated from zinc-coated (galvanized) steel; one-piece-type, folded pair of unperforated screeds in M-shaped configuration; with perforated flanges and removable protective tape on plaster face of control joint.
 6. Expansion Joints: Fabricated from zinc-coated (galvanized) steel; folded pair of unperforated screeds in M-shaped configuration; with expanded flanges.
 7. Two-Piece Expansion Joints: Fabricated from zinc-coated (galvanized) steel; formed to produce slip-joint and square-edged reveal that is adjustable from 1/4 to 5/8 inch wide; with perforated flanges.

0.6 MISCELLANEOUS MATERIALS

- A.** Water for Mixing and Finishing Plaster: Potable and free of substances capable of affecting plaster set or of damaging plaster, lath, or accessories.
- B.** Bonding Compound: ASTM C 631.
- C.** Steel Drill Screws: For metal-to-metal fastening, ASTM C 1002 or ASTM C 954, as required by thickness of metal being fastened; with pan head that is suitable for application; in lengths required to achieve penetration through joined materials of not fewer than three exposed threads.
- D.** Fasteners for Attaching Metal Lath to Substrates: Complying with ASTM C 841.
- E.** Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.
1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.
- F.** Isolation Strip at Exterior Walls:

1. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch thick, in width to suit steel stud size.
- G.** Acoustical Sealant for Exposed and Concealed Joints: Nonsag, paintable, nonstaining, latex sealant complying with ASTM C 834 that effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.

0.7 BASE-COAT PLASTER MATERIALS

- A.** Base-Coat Plasters, General: ASTM C 28/C 28M.
- B.** Gypsum Neat Plaster: For use with job-mixed aggregates.
- C.** Aggregates for Base-Coat Plasters: ASTM C 35.

0.8 FINISH-COAT PLASTER MATERIALS

- A.** Gypsum Keene's Cement: ASTM C 61/C 61M.
- B.** Lime: ASTM C 206, hydrated finishing type.
1. Type N: Normal, single-hydrate lime.
- C.** Aggregates for Float Finishes: ASTM C 35; graded per ASTM C 842.

0.9 PLASTER MIXES

- A.** General: Comply with ASTM C 842 and manufacturer's written instructions for applications indicated.
- B.** Base-Coat Mixes over Expanded-Metal Lath: Gypsum neat plaster with job-mixed sand for scratch and brown coats of three-coat plasterwork.
- C.** Base-Coat Mixes over Expanded-Metal Lath: For three-coat plasterwork, as follows:
1. Scratch Coat: Gypsum wood-fibered plaster; neat or with job-mixed sand.
 2. Brown Coat: Gypsum neat plaster with job-mixed sand.
- D.** Base-Coat Mix over Unit Masonry: Gypsum neat plaster with job-mixed sand for single base coats of two-coat plasterwork.
- E.** Base-Coat Mix over Monolithic Concrete: Gypsum neat plaster with job-mixed sand for single base coats of two-coat plasterwork.

- F.** Finish-Coat Mix for Float Finishes: 1 part gypsum Keene's cement, 2 parts lime, and 6 parts sand.

PART 3 - EXECUTION

0.1 EXAMINATION

- A.** Examine areas and substrates, with Installer present, and including welded hollow-metal frames and structural framing, for compliance with requirements and other conditions affecting performance.
1. Proceed with installation only after unsatisfactory conditions have been corrected.

0.2 PREPARATION

- A.** Protect adjacent work from soiling, spattering, moisture deterioration, and other harmful effects caused by plastering.
- B.** Coordination with Sprayed Fire-Resistive Materials:
1. Before sprayed fire-resistive materials are applied, attach offset anchor plates or ceiling runners (tracks) to surfaces indicated to receive sprayed fire-resistive materials. Where offset anchor plates are required, provide continuous plates fastened to building structure not more than 24 inches on center.
 2. After sprayed fire-resistive materials are applied, remove them only to extent necessary for installation of plaster assemblies and without reducing the fire-resistive material thickness to less than that required to obtain fire-resistance rating indicated. Protect remaining fire-resistive materials from damage.

0.3 INSTALLATION, GENERAL

- A.** Fire-Resistance-Rated Assemblies: Install components according to requirements for design designations from listing organization and publication indicated on Drawings.
- B.** STC-Rated Assemblies: Install components according to requirements for design designations from listing organization and publication indicated on Drawings.
1. Seal construction at perimeters, behind control and expansion joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations.

2. Comply with ASTM C 919 and manufacturer's written recommendations for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.
- C. Sound Attenuation Blankets: Where required, install blankets before installing lath unless blankets are readily installed after lath has been installed on one side.
- D. Acoustical Sealant: Where required, seal joints between edges of plasterwork and abutting construction with acoustical sealant.

0.4 INSTALLING NONSTRUCTURAL STEEL FRAMING, GENERAL

- A. General: Comply with requirements in ASTM C 841 for applications indicated.
 1. Comply with ASTM C 754 for installation of items not addressed in ASTM C 841.
- B. Install supplementary framing, blocking, and bracing at terminations in plaster assemblies to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
 1. Comply with details indicated on Drawings and with plaster manufacturer's written recommendations.
- C. Isolate steel framing from building structure to prevent transfer of loading imposed by structural movement.
 1. Isolate ceiling assemblies where they abut or are penetrated by building structure.
 2. Isolate partition framing and wall furring where it abuts structure, except at floor. At head of assemblies, install slip-type joints that avoid axial loading and that support assembly laterally.
- D. Do not bridge building control and expansion joints with steel framing or furring members. Frame both sides of joints independently.
- E. Soffits: Unless otherwise detailed on Drawings, install furred or suspended soffits to comply with requirements for ceiling installation; install framed soffits to comply with requirements for partition installation.

0.5 INSTALLING STEEL FRAMING FOR CEILINGS

- A. Suspend ceiling hangers from building structure as follows:
 1. Install hangers plumb and free of contact with insulation or other objects within ceiling plenum that are not part of supporting

structural or ceiling suspension system. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.

2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with the location of hangers required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to limit deflection to 1/360 of span while supporting ceiling loads.
 3. Wire Hangers: Secure by looping and tying, either directly to structure or directly to fasteners that are secure and appropriate for substrate, in a manner that will not cause them to deteriorate or otherwise fail.
 4. Hangers: Secure to structure, including intermediate framing members, by attaching to fasteners that are secure and appropriate for substrate and hanger, in a manner that will not cause hangers to deteriorate or otherwise fail.
 5. Do not support ceilings directly from permanent metal forms. Secure to fastener devices that extend through forms.
 6. Do not attach hangers to steel deck tabs.
 7. Do not attach hangers to steel roof deck. Attach hangers to structural members.
 8. Do not connect steel framing to or suspend it from ducts, pipes, or conduit.
- B.** Installation Tolerances: Install steel framing components for ceilings so members are level to within 1/8 inch in 12 feet measured lengthwise on each member and transversely between parallel members.
- C.** Sway-brace suspended steel framing with hangers used for support.
- D.** Install steel framing components for ceilings in sizes and spacings indicated but not less than that required by the referenced steel framing and installation standards.

0.6 INSTALLING STEEL PARTITION FRAMING

- A.** Install tracks (runners) at floors, ceilings, and structural walls and columns where plaster assemblies abut other construction.
1. Where studs are installed directly against exterior walls, install foam-gasket isolation strip between studs and wall.
- B.** Installation Tolerance: Install each steel framing member so fastening surfaces vary not more than 1/8 inch from the plane formed by the faces of adjacent framing.
- C.** Extend partition framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to

terminate at suspended ceilings. Continue framing over frames for doors and openings and frame around ducts penetrating partitions above ceiling.

- D.** Install steel studs so flanges point in the same direction.
- E.** Frame door openings with two studs installed at each jamb, unless otherwise indicated.
 - 1. Extend jamb studs through suspended ceilings and attach to underside of floor or roof structure above.

0.7 INSTALLING METAL LATH

- A.** General: Install according to ASTM C 841.
- B.** Expanded-Metal Lath:
 - 1. Partition Framing and Vertical Furring: Install flat diamond-mesh lath.
 - 2. Flat-Ceiling and Horizontal Framing: Install flat diamond-mesh lath.
 - 3. Curved-Ceiling Framing: Install flat diamond-mesh lath.
 - 4. On Solid Surfaces, Not Otherwise Furred: Install self-furring diamond-mesh lath.
 - 5. Solid-Plaster Partitions: Where supported by channel studs, install flat diamond-mesh lath.

0.8 INSTALLING ACCESSORIES

- A.** General: Install according to ASTM C 841.
- B.** Cornerbeads: Install at external corners.
- C.** Casing Beads: Install at terminations of plasterwork, except where plaster passes behind and is concealed by other work and where metal screeds, bases, or frames act as casing beads.
- D.** Control Joints: Install control joints with spacing between joints in either direction not exceeding the following and in specific locations approved by Architect for visual effect:
 - 1. Partitions and Ceilings: 30 feet.

0.9 PLASTER APPLICATION

- A.** General: Comply with ASTM C 842.

1. Do not deviate more than plus or minus 1/8 inch in 10 feet from a true plane in finished plaster surfaces, as measured by a 10-foot straightedge placed on surface.
2. Grout hollow-metal frames, bases, and similar work occurring in plastered areas, with base-coat plaster material, before lathing where necessary. Except where full grouting is indicated or required for fire-resistance rating, grout at least 6 inches at each jamb anchor.
3. Finish plaster flush with metal frames and other built-in metal items or accessories that act as a plaster ground, unless otherwise indicated. Where casing bead does not terminate plaster at metal frame, cut base coat free from metal frame before plaster sets and groove finish coat at junctures with metal.
4. Provide plaster surfaces that are ready to receive field-applied finishes indicated.

B. Bonding Compound: Apply on plaster bases.

C. Finish Coats: Provide float finish unless otherwise indicated.

D. Concealed Plaster:

1. Where plaster application will be concealed behind built-in cabinets, similar furnishings, and equipment, apply finish coat.
2. Where plaster application will be concealed above suspended ceilings and in similar locations, finish coat may be omitted.
3. Where plaster application will be used as a base for adhesive application of tile and similar finishes, finish coat may be omitted.

0.10 CUTTING AND PATCHING

- A.** Cut, patch, replace, and repair plaster as necessary to accommodate other work and to restore cracks, dents, and imperfections. Repair or replace work to eliminate blisters, buckles, crazing and check cracking, dry outs, efflorescence, sweat outs, and similar defects and where bond to substrate has failed.

0.11 CLEANING AND PROTECTION

- A.** Remove temporary protection and enclosure of other work. Promptly remove plaster from door frames, windows, and other surfaces not indicated to be plastered. Repair floors, walls, and other surfaces stained, marred, or otherwise damaged during plastering.

PART 4 - MEASUREMENT AND PAYMENT

0.1 MEASUREMENT

- A. Gypsum cement plaster will be measured as per square foot complete in place, including all preparation, framing, accessories and incidentals.

0.2 PAYMENT

- A. Payment for gypsum plaster will be made at the Contract unit price for the quantities as specified above.

0.3 PAYMENT

ITEM NO.	DESCRIPTION	UNIT
0913.100	PLASTERING	SF

END OF SECTION